



Massachusetts Urban & Community Forestry Program

# The Citizen Forester

NOVEMBER 2014

## Hardy Trees for Containers

By Richard W. Harper & H. Dennis P. Ryan III  
Biophilia is a term that has been used to describe our inherent attraction to plants, green spaces, and the natural world. Nowhere is our desire to recreate “natural” outdoor green spaces more apparent than in the built environment. Part of this strategy may involve the establishment of gardens, parks, planting trees, and even the use of above-ground containers (called a “planter”) to grow plants on sites where they otherwise would not persist. Though plants may survive for many years in a planter, these arrangements are often temporary, involving the use of plant material that may need to be replaced as frequently as every year.

### Planters at UMass

The University of Massachusetts at Amherst has been establishing plants in above-ground planters around some of its main buildings and sites like the Campus Center and the Du Bois library, for many years. Though many containerized plantings have involved the use of annuals – and thus are replaced before the onset of each growing season – there are also examples of trees that have persisted for many years in these planters. It almost goes without saying that sites that often house these containerized plantings are inherently barren, replete with concrete, and offer many luxuries that

ground planter is the ability to customize the “soil” environment. Growing media often consists of a combination peat-vermiculite-perlite-compost-soil mixture. Soil composition may be adjusted (i.e. more clay may be used to increase water-holding capacity) and the other additives may vary in accordance with the type of plant material being established.

### Plant Selection

An important consideration with above-ground outdoor planters is root hardiness and cold tolerance. A plant species that is known to be tolerant of a Northeast winter, growing in a more traditional in-ground setting, may not demonstrate the same penchant for low temperatures in a planter. Simply put, with less growing media, and increased exposure, roots may experience freezing to the degree that the plant may not be able to recover. To compensate for this, planters may need to be large and in some cases, insulated. The UMass containers located outside the Du Bois library on the UMass campus offer a growing space of 98 cubic ft. (7' X 7' X 2') and have been home to a number of trees for many years, including hackberry (*Celtis occidentalis*). Other tree selections that may be appropriate for above-ground planters may include a number of deciduous and coniferous selections:

Crabapples (*Malus* spp.)  
Hawthorns (*Crataegus* spp.)  
Pagoda Tree (*Styphnolobium japonicum*)  
Honeylocust (*Gleditsia triacanthos*)  
Japanese Zelkova (*Zelkova serrata*)  
Ginkgo (*Ginkgo biloba*)

Weeping Blue Atlas Cedar (*Cedrus atlantica* ‘Glauca’)



Above-ground planters may house a variety of annuals, perennials, and grasses.

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concrete, and offer many luxuries that include high winds, drought conditions in the summer, and cold temperatures in the winter. In the plant world, these are conditions not for the faint of heart! Though above-ground planters may offer an alternative means of successfully establishing plants in notoriously inhospitable areas, they often require a degree of ongoing maintenance to encourage optimal plant performance that may include regular watering (especially during the hottest weeks of the summer) and often an annual fertilization. One of the positive attributes of using an above-

(Continued on page 2)

# Hardy Trees for Containers

Hinoki Cypress (*Chaemacyparis obtusa* 'Compacta')  
 Yew (*Taxus* spp.)  
 Holly (*Ilex* spp.)  
 Arborvitae (*Thuja occidentalis*)

A number of Junipers (*Juniperus* spp.), Spruce (*Picea* spp.), and Pines (*Pinus* spp.) may also be appropriate for above-ground planters, however, the authors have observed the wholesale failure of some of these trees, depending on container size and the degree of cold temperatures experienced throughout the winter.



## Know Your Zone!

Hardiness zones in Massachusetts range from 5a to 7b. UMass Amherst is in the USDA Plant Hardiness Zone 5. It is important to know what zone any planting site is located in to better determine the cold temperature extremes that a containerized planting may be exposed to. (Visit USDA Plant Hardiness Zone map [www.planthardiness.ars.usda.gov](http://www.planthardiness.ars.usda.gov) for more details.)

When in doubt, always select plants for above-ground containers in accordance with the lower zone number. For example, if a site is located between zones 5b and 6a, it should only feature plants that will tolerate the zone 5b conditions.

"The most suitable trees and shrubs for container plantings also have growth rates and habits that allow them to be kept reasonably "under control" and in scale with their containers and surroundings. In addition, plant features such as branch structure, leaf texture, and color, and seasonal flowers or fruit should all be taken into account in deciding whether the plant is appropriate for the location." (ROSEDALE Nursery, NY)

## Moderation is Key

Keep in mind that overwatering can be just as damaging as not enough water, and planters may need some sort of drainage to keep plants from being "drowned." If the option exists to select larger planters, always choose the largest type that will house the most amount of growing media – after all, it is the key buffering agent that will help mitigate and insulate against those harsh winter-time temperatures.



A number of coniferous and broadleaf trees may be well-suited to growing in planters (DuBois Library, UMass Amherst).

## Further References:

Trees for Landscape Containers and Planters by Virginia Cooperative Extension

<http://pubs.ext.vt.edu/430/430-023/430-023.html>

Rosedale Nurseries, Hawthorne, NY

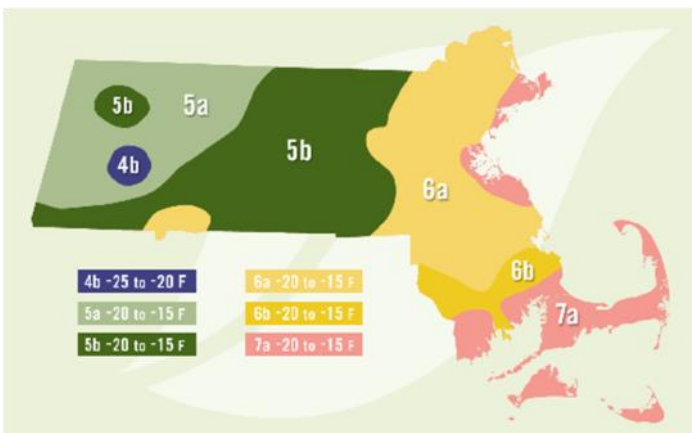
[http://rosedalenurseries.com/Guides/outdoor\\_container\\_planting.pdf](http://rosedalenurseries.com/Guides/outdoor_container_planting.pdf)

The City Gardener's Handbook by Linda Yang. (1990, Random House)

Sheridan Nurseries, Georgetown, ON, Canada

[www.sheridenanurseries.com](http://www.sheridenanurseries.com)

Richard W. Harper is the Extension Assistant Professor in the Department of Environmental Conservation at UMass-Amherst. H. Dennis P. Ryan III is Professor and Program Coordinator of the Arboriculture/Urban Forestry Program at UMass-Amherst.



# Species Spotlight—Katsura tree, *Cercidiphyllum japonicum*

By **Mollie Freilicher**  
MA-DCR  
Community Action Forester



While we have just passed the time when the katsura tree sends wafts of cotton candy-like fragrance into the air, we still can appreciate the history, beauty, and character of katsura tree in the landscape. Katsura tree is native to China and Japan, but it once had a much wider range. Fossils indicate that, like ginkgo, relatives of the modern-day katsura tree were present in North America and Europe 1.8 million years ago and retreated to China and Japan about 11,500 years ago. The genus *Cercidiphyllum* (meaning leaves like redbud, *Cercis*) contains two species. The other species *C. magnificum*, despite its grand name, is a much smaller tree and is not planted ornamentally in the United States. Thomas Hogg, Jr. introduced katsura tree to the U.S. in 1865, along with many other species. [We learned about Thomas Hogg, Jr., in the [June 2012 Citizen Forester](#). Click the link to learn more.] In Japan, lumber from katsura tree is used for cabinets and for other construction. In its native habitat, katsura tree grows in moist,



slightly alkaline soils and is one of the largest forest trees in China and Japan. Native, wild populations are becoming rare in China and Japan due to poor regeneration and the International Union for Conservation of Nature (IUCN) lists katsura as “near threatened.”

Katsura tree is hardy in USDA zones four to eight and does well in Massachusetts. Michael Dirr, in his *Manual of Woody Landscape Plants*, points out several outstanding specimens in Massachusetts. In the urban landscape, katsura tree reaches heights of 40 to 60 feet, but can grow much taller in its



native range. The spread of katsura tree is often comparable to the height, and its habit can be pyramidal to wide-spreading. The growth rate is medium-fast.

Leaves of katsura tree are opposite or subopposite, simple, and two to four inches long. The leaf is similar to a redbud leaf, roughly heart-shaped, but is smaller. Leaves will show a purple tinge when they begin to unfold and become green to blue-green. Fall color of katsura tree is variable, with yellow and orange leaves common. As the leaves senesce, the tree gives off sweet scents of brown sugar or cotton candy.

Katsura tree is dioecious, with separate male and female trees.

Flowers of katsura tree are not ornamentally important. They open in early April, before the leaves emerge. The fruit is a small pod, up to 3/4-inch long, on a short stalk. They are found in clusters on the stem in fall.

Katsura tree is generally free of insect and disease problems, although it is a host for Asian longhorned beetle (ALB) and should be planted with caution in the ALB-regulated area in Worcester County. Katsura tree can be difficult to transplant, and Dirr recommends planting balled and burlapped trees or container-grown trees in early spring. Katsura tree requires moist, well-drained soil, and does best on sites with full-sun exposure. Because of its requirement for adequate moisture as a young tree, katsura tree may be more suited for parks and lawn settings, rather than tree pits or street tree plantings, where water may be more limited. In the fifth edition of the *Manual of Woody Landscape Plants*—where an allée of katsura trees in fall color graces the cover—Dirr places katsura as one of his favorite trees and writes that if he could only plant one tree, this would be it.

Photos: All photos from [Virginia Tech](#)





# Growing on Trees

## DCR Urban and Community Forestry Challenge Grants

Challenge grants are **50-50 matching grants** (75-25 for environmental justice projects) to municipalities and non-profit groups in Massachusetts communities of **all sizes** for the purpose of building local capacity for excellent urban and community forestry at the local and regional level. The USDA Forest Service provides funding for the grant program, and DCR administers the grants with guidance from the Massachusetts Tree Wardens' and Foresters' Association. The DCR Urban and Community Forestry Program assists communities and nonprofit groups in their efforts to protect and manage community trees and forest ecosystems, with the ultimate aim of improving the environment and enhancing the livability of all of Massachusetts's communities.

For more information on the Challenge Grants (including our NSTAR Go Green grants and National Grid Partnership Grants contact, Julie Coop at 617-626-1468 or [julie.coop@state.ma.us](mailto:julie.coop@state.ma.us) or Mollie Freilicher at 413-577-2966 or [mollie.freilicher@state.ma.us](mailto:mollie.freilicher@state.ma.us).

**Application due November 1 and May 1**

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## The Beveridge Family Foundation

The mission of the Beveridge Family Foundation, Inc. is to preserve and enhance the quality of life by embracing and perpetuating Frank Stanley Beveridge's philanthropic vision, through grant-making incentives in support of programs in youth development, health, education, religion, art, and environment, primarily in Hampden and Hampshire counties, Massachusetts. The next grant deadline is February 1, 2015. For more information go to: <http://www.beveridge.org/>.

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## TD Bank Community Grants

### TD Charitable Foundation

Through the TD Charitable Foundation and the financial grants it makes, TD Bank partners with area non-profit and public institutions to create meaningful change and improvement in communities. Coupled with the commitment of TD Bank employees and the thousands of volunteer hours they donate each year, this makes a significant impact in the communities in which we live and do business.

One focus area for the foundation is:

### Environment

This includes programs and initiatives that help improve the environment through energy-saving and sustainable measures, promote environmental awareness and education, and engage our communities in the active preservation of our natural surroundings.

For more information, please [e-mail your local community TD Bank contact](#).

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## 2014 Tree City USA Application

The Arbor Day Foundation's [online portal](#) for Tree City USA applications is now accepting applications.

Application instructions are posted at: <http://www.mass.gov/eea/agencies/dcr/conservation/forestry-and-fire-control/branching-out-additional-programs.html>

Applications are due December 31, 2014.

For questions about the application process or to find out how your community can become a Tree City USA, contact Mollie Freilicher, [mollie.freilicher@state.ma.us](mailto:mollie.freilicher@state.ma.us) 413-577-2966.

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## New Host for Emerald Ash Borer: White fringetree

The Animal, Plant, Health Inspection Service has identified white fringetree (*Chionanthus virginicus*) as a new host for Emerald Ash Borer. Read more about the discovery in *The Courier Journal*. Learn to identify white fringetree by checking out our [Species Spotlight](#) from February 2012 or go to the [UConn Plant Database](#). Please also stay tuned for updates to the quarantine in Massachusetts.

# Growing on Trees

## Tree Steward Wrap-up!

On October 24-25, thirty-one tree stewards gathered at Harvard Forest in Petersham for the annual DCR Tree Steward Training. Attendees came from all over the state to hear speakers on partnerships, grants, insects and diseases, and soils and to learn about tree identification and pruning.

Tree Steward Training is held every fall at Harvard Forest in Petersham and is open to tree wardens, municipal employees, members of tree boards, committees, other community forestry organizations, and interested citizens.



Thanks to our  
2014 presenters:

Rick Harper  
David Lefcourt  
Melissa LeVangie  
Joe Perry  
Alex Sherman  
Chuck Sherzi  
Tawny Virgilio

## 30,000 Trees (And Counting!) in Worcester

On October 6, city and state officials, the Worcester Tree Initiative and supporters, partners, and residents gathered at Burncoat High School to commemorate the planting of the 30,000<sup>th</sup> tree in the Asian longhorned beetle-regulated area in Worcester County. In 2009, former Lieutenant Governor Tim Murray and Congressman James McGovern founded the Worcester Tree Initiative with the goal of planting 30,000 trees in five years. The Department of Conservation and Recreation, the City of Worcester, and the Worcester Tree Initiative helped reach that goal, and the Worcester Tree Initiative announced the next goal of 20,000 more trees. For more coverage on the event, see [worcestermag.com](http://worcestermag.com), [Worcester News Tonight](http://Worcester News Tonight) (YouTube), and [telegram.com](http://telegram.com).



## Upcoming Courses

Check out the offerings this fall and winter at the **Arnold Arboretum** (highlighted in the October issue) or go to the Arboretum website: <http://my.arboretum.harvard.edu/Info.aspx?EventID=1>

The **New England Wildflower Society** also has many courses this fall and winter. See the October issue or go to: <http://www.newenglandwild.org/learn/>

# Growing on Trees

## Urban Forestry Today Webcast Greening the Urban Forest with Conifers

Although the benefits of coniferous trees are numerous and well-known, from wildlife habitat, to screening, to rainfall interception, their use as urban trees may be limited and uncommon. Join Casey Clapp, arborist and recent UMass grad, as he outlines the research about the benefits of urban conifers and discusses their uses as living components of green infrastructure in the built environment.

To attend, visit [www.joinwebinar.com](http://www.joinwebinar.com) and enter the ID code # **361-264-823**.

This broadcast is free and will offer the opportunity for arborists to earn 1.0 ISA CEU and 0.5 MCA credit.

For more information, contact:

Rick Harper, Department of Environmental Conservation  
University of Massachusetts, Amherst  
[rharp@eco.umass.edu](mailto:rharp@eco.umass.edu)

The Urban Forestry Today 2014 Webcast Series is sponsored by the University of Massachusetts Department of Environmental Conservation, in cooperation with the Massachusetts Tree Wardens' & Foresters' Association, University of Massachusetts Extension, and the Massachusetts Department of Conservation and Recreation.

## Managing Urban Forests in a Changing Climate

### The Morton Arboretum Urban Tree Conference

November 18 and 19, 2014

[Register now](#) to learn how you can help your urban forest and your community prepare for the effects of climate change at The Morton Arboretum Urban Tree Conference, "Managing Urban Forests in a Changing Climate," November 18 and 19, 2014, in Lisle, Illinois. This two-day conference will focus on practical concerns for those who manage trees in cities and suburbs, such as how the changes in climate are expected to affect trees' biology and growing conditions; shifts and increases in pests and diseases; managing for extreme storms and severe drought; and, how trees can help communities adapt to conditions such as greater stormwater loads. The conference is presented in partnership with the Northern Institute of Applied Climate Science and the USDA Forest Service. More information at: <http://www.mortonarb.org/>

## Urban Forest Connections Webinar Series

### Tree Risk Assessment for Municipal Officials

November 12, 2014, 1:00 p.m. - 2:00 p.m. ET

Paul Ries, Oregon Department of Forestry  
Jerry Mason, Mason and Stricklin, LLC

For more information, go to: <http://www.fs.fed.us/research/urban-webinars/>

## Lectures and Events

### Sea Level Rise and the Future of Coastal Cities

Thursday-Friday, November 13-14, 2014

1 Silber Way, Floor 9 – Metcalf Trustee Center  
Ballroom, Boston University

*Sea Level Rise and the Future of Coastal Cities* will examine how cities are planning for, and adapting to, rising sea levels, extreme weather events, and changing coast lines. Mayors, scientists, city and federal officials, urban planners, and developers will come together to discuss the known and emerging threats. Together, they will examine the pioneering actions that can protect the future livability and sustainability of coastal cities. The meeting will examine what is known and what cities are already doing to increase their resilience and reduce risks to their citizens and explore design principles and innovations that contribute to more resilient cities. The day will close with a critical discussion of how new partnerships between business, cities, and academia could yield practical innovations that can be deployed to protect and enhance urban communities.

This event is free to attend, but space is limited.

[REGISTER](#)

This event is being co-sponsored by the [Initiative on Cities](#) at Boston University and [The Frederick S. Pardee Center for the Study of the Longer-Range Future](#).

**We do our best to ensure that listings are accurate, but please check with program organizers for the most up-to-date information.**

# Growing on Trees

## UMass-Amherst Department of Environmental Conservation

November 14, 2014, 12:20 p.m. – 1:10 p.m.

“STORMISE – An Initiative to Manage Trees and Forests for Storm Resilience” – Room 305, Holdsworth Hall

Speaker: Mark Rudnicki – University of Connecticut

## From the Society of Municipal Arborists

### 2015 Municipal Forestry Institute

February 22-27, 2015, Portland, OR

MFI is an exciting, high-level training opportunity educating professionals in the leadership and managerial aspects of urban forestry. This week-long intensive educational program delivers a challenging opportunity to grow a more successful community tree program. Come learn and master leadership and management tools of program administration, coalition-building, strategic thinking, program planning, and public relations by investing a week in your personal growth and development.

#### What does MFI Cover?

The Institute curriculum was developed by a team of urban forestry professionals and educators with dozens of years of experience in leading urban forestry programs at the local, state, federal, and non-profit levels. There are four major components of the MFI curriculum:

- Developing A Leadership Approach To Your Position
- Thinking and Planning Strategically to Advance Urban Forestry Programs
- Working Effectively with Boards, Coalitions, and Non-Profit Organizations
- Managing the Relationship Between People and Trees

The curriculum is presented in a variety of formats including lectures, multi-media presentations, panel discussions, group exercises, and real-life scenarios.

Registration deadline is December 1, 2014.

Find out more and register on line at <http://www.urban-forestry.com/>.

## Tree Warden of the Year Nominations

The Massachusetts Tree Wardens' and Foresters' Association is seeking nominations for the Seth H. Swift Tree Warden of the Year Award. The Association's criteria for the award winner include the following:

- Holds the position of Tree Warden or Deputy Tree Warden in a municipality
- Actively participates in Tree City USA, the National Arbor Day Foundation's program
- Demonstrates active leadership and dedication to the protection of urban trees
- Educates the community about the importance of healthy urban trees
- Holds an annual Arbor Day celebration
- Shows commitment to the profession by volunteering with a tree-related organization.

If your tree warden meets these criteria, we encourage you to fill out the nomination form to reward your community and this employee with well-deserved recognition. Nomination forms are available on the Mass Tree Wardens' website: <http://masstreewardens.org/tree-warden-of-the-year/>

*Please note: Each year MTWFA receives a number of nominations, and it is always a very difficult choice! If you've nominated your Tree Warden in the past and been disappointed, please resubmit your nomination again this year.*





# Gleanings

## Where Mud Is Archaeological Gold, Russian History Grew on Trees

By David M. Herszenhorn

October 18, 2014 Veliky Novgorod, Russia — The note, from father to son, was the sort of routine shopping list that today would be dashed off on a smartphone. In 14th century Russia, it was etched into the bark of a birch tree and curled into a scroll. “Send me a shirt, towel, trousers, reins, and, for my sister, send fabric,” the father, whose name was Onus, wrote to his son, Danilo, the block letters of Old Novgorod language, a precursor to Russian, neatly carved into the wood with a stylus. Onus ended with a bit of humor. “If I am alive,” he wrote, “I will pay for it.” Read the full story at [The New York Times](#).

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## Free Planting and Design Specifications

Dr. Ed Gilman from University of Florida, Jim Urban, FASLA, and Brian Kempf and Tyson Carroll of the [Urban Tree Foundation](#) have developed a modern, up-to-date, and peer-reviewed set of details and specifications in AutoCAD, PDF, and Microsoft Word formats for the green industry. These are designed specifically for landscape architects, engineers, architects, contractors, urban foresters, arborists, municipalities, and state agencies.

All these files are open source, free, and can be edited by the user. You and your colleagues are free to use them in projects without charge and without credit to the Urban Tree Foundation or any of the project team members. Although the group encourages modification to fit your specific site and project needs, make your changes only after carefully considering all the pertinent variables at the planting site.

Funding for this project was provided by the California Department of Forestry (CDF), Urban Forestry Program.

Specs are available on the ISA website: <http://www.isa-arbor.com/education/onlineResources/cadplanningspecifications.aspx>

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## Risky Business: The Economic Risks of Climate Change

The U.S. faces significant economic risks from climate change. Because of its size and geographic diversity, these risks vary greatly between regions. The Risky Business Project focuses on quantifying and publicizing the economic risks from the impacts of a changing climate.

Launched in October, 2013, the Risky Business Project focuses on quantifying and publicizing the economic risks from the impacts of a changing climate. Risky Business Project co-chairs Michael R. Bloomberg, Henry Paulson, and Tom Steyer tasked the Rhodium Group, an economic research firm that specializes in analyzing disruptive global trends, with an independent assessment of the economic risks posed by a changing climate in the U.S. Rhodium convened a research team co-led by climate scientist Dr. Robert Kopp of Rutgers University and economist Dr. Solomon Hsiang of the University of California, Berkeley. Rhodium also partnered with Risk Management Solutions (RMS), the world's largest catastrophe-modeling company for insurance, reinsurance, and investment-management companies around the world. You can explore the team's findings or download the whole report at [www.riskybusiness.org](http://www.riskybusiness.org).

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## Social Media

Are you on Facebook? Many of our local and national tree organizations are on Facebook too. Like their pages and hear the latest news:

**International Society of Arboriculture:** <https://www.facebook.com/InternationalSocietyofArboriculture>

**Massachusetts Arborists Association:** <https://www.facebook.com/pages/Massachusetts-Arborists-Association/144757075571747>

**Massachusetts Tree Wardens' and Foresters' Association:** <https://www.facebook.com/masstreewardens>

**New England Chapter, International Society of Arboriculture:** <https://www.facebook.com/NewEnglandISA>

**Urban Forestry Today:** <https://www.facebook.com/uftoday>





# News

## If Trees Could Talk: Forest Research Network Reveals Global Change Effects

Permafrost thaw drives forest loss in Canada, while drought has killed trees in Panama, southern India, and Borneo. In the U.S., in Virginia, over-abundant deer eat trees before they reach maturity, while nitrogen pollution has changed soil chemistry in Canada and Panama. Continents apart, these changes have all been documented by the Smithsonian-led Center for Tropical Forest Science-Forest Global Earth Observatory, CTFS-ForestGEO, which released a new report revealing how forests are changing worldwide. Read more at [Phys.org](http://Phys.org).

## Eastern Hemlocks That Have Survived Insect Infestation Have a Story to Tell

By Lynn Davis

October 2, 2014—Will the eastern hemlock—a tree that has been around for 10,000 years, often lives 300 years, and can live as long as 800 years—be wiped out by an invasive cousin of the aphid known as the hemlock woolly adelgid? Maybe not. When a Virginia Tech faculty member and her graduate student examined eastern hemlocks in six states from Massachusetts to Georgia, they had some unexpected results. "We wanted to see if there was a silver lining in this otherwise doom-and-gloom story, so we examined the few eastern hemlock trees that have survived the [insect infestation](#)," said Carolyn Copenhaver, associate professor of forest ecology in the College of Natural Resources and Environment. "We found that in some environments, the trees can continue to grow." Read more at [Phys.org](http://Phys.org).

## Microbes in Central Park Soil: If They Can Make it There, They Can Make it Anywhere

October 1, 2014—Soil microbes that thrive in the deserts, rainforests, prairies, and forests of the world can also be found living beneath New York City's Central Park, according to a surprising new study led by Colorado State University and the University of Colorado Boulder. The research team analyzed 596 soil samples collected from across Central Park's 843 acres and discovered a stunning diversity of below-ground life, most of which had never been documented before. Only 8.5 percent to 16.2 percent of the organisms discovered in the park soils, depending on their type, had been previously entered into existing databases that describe microbial life, according to the study results published today in the journal *Proceedings of the Royal Society B*. Read more at [Phys.org](http://Phys.org).

## Measuring the Height of the World's Forests

By David Orenstein

October 2, 2014—If we know the height of the world's forests, then we can estimate how much carbon they store. That will improve our understanding of how forests interact with the atmosphere and their role in mitigating climate change. To make those measurements, a collaboration including Brown University ecologist Jim Kellner is putting a sophisticated laser scanner on the International Space Station in 2019. Read more at [Phys.org](http://Phys.org).

## Researcher Reports on Urban "Heat Islands"

By Alvin Powell

September 26, 2014—With longer and hotter heat waves in the offing, a Harvard professor has put the urban "heat island" under the microscope, finding smaller heat islands—mainly occupied by the poor—within city limits, and identifying features that could counter their effects. Hurricane Sandy's toll on New York and New Jersey brought into stark relief the threat that rising sea levels pose to urban areas, sending officials around the world scrambling to begin efforts to mitigate climate change. But Joyce Klein Rosenthal, an assistant professor of urban design, said it would be a mistake if those plans focused on coastal storms and sea level rise to the exclusion of heat waves. The deadly potential of [heat waves](#) has become clearer in recent years, most strikingly through an August 2003 heat wave in France that caused an estimated 14,800 excess deaths. Further, climate modelers believe that by 2050, heat-related deaths may be up 70 percent in the New York City region alone. Read more at [Phys.org](http://Phys.org).

## New Approach Can Predict Impact of Climate Change on Species That Can't Get Out Of The Way

October 1, 2014—When scientists talk about the consequences of climate change, it can mean more than how we human beings will be impacted by higher temperatures, rising seas, and serious storms. Plants and trees are also feeling the change, but they can't move out of the way. Researchers at the University of Maryland Center for Environmental Science and University of Vermont have developed a new tool to overcome a major challenge of predicting how organisms may respond to climate change. Read more at [Phys.org](http://Phys.org).

# On the Horizon

- Nov 1** **Deadline: [DCR Urban and Community Forestry Challenge Grants](#)**
- Nov 3-4** Society of Municipal Arborists 50th Annual Conference, Charlotte, NC, [www.urban-forestry.com](http://www.urban-forestry.com)
- Nov 5-6** Partners in Community Forestry National Conference, Charlotte, NC, [www.arboday.org/pcf](http://www.arboday.org/pcf)
- Nov 6** Lecture: American Canopy: Trees, Forests, and the Making of a Nation, [Arnold Arboretum](http://Arnold Arboretum), Boston, MA
- Nov 11-12** Certified Tree Care Safety Professional Workshop, Tree Care Industry Association, Hartford, CT, [www.tcia.org](http://www.tcia.org)
- Nov 13-15** TCI Expo 2014, Tree Care Industry Association, Hartford, CT, [www.tcia.org](http://www.tcia.org)
- Nov 18** MA Arborist Association Safety Saves, Wellesley, [www.massarbor.org](http://www.massarbor.org)
- Nov 18** MA Arborist Association Dinner Meeting, Framingham, [www.massarbor.org](http://www.massarbor.org)
- Nov 18** Lecture: Protecting the Ash Tree: Wabanaki Diplomacy and Sustainability Science in Maine, Cambridge, MA, <http://my.arboretum.harvard.edu/>
- Dec 1** **Nominations due!** Tree Warden of the Year, [www.masstreewardens.org](http://www.masstreewardens.org)
- Dec 1** **Deadline for registration:** Municipal Forestry Institute (See page 7.)
- Dec 3** Arthur Shurcliff: From Boston to Colonial Williamsburg, Arnold Arboretum, <http://my.arboretum.harvard.edu/>
- Dec 6** ISA Exam, University of Maine, Orono, [www.newenglandisa.org](http://www.newenglandisa.org)
- Dec 9** **Course full!** Tree Risk Assessment, Mass Tree Wardens' and Foresters' Association, Acton, MA, [www.masstreewardens.org](http://www.masstreewardens.org)
- Dec 31** **Deadline: Tree City, Tree Line, Tree Campus USA Applications**
- Jan 13-14** Mass Tree Wardens' and Foresters' Association Annual Conference, Sturbridge, MA, [www.masstreewardens.org](http://www.masstreewardens.org)
- Feb 4-6** New England Grows, Boston, MA, <http://www.newenglandgrows.org/>
- Feb 22-27** Municipal Forestry Institute, Portland, OR, [www.urban-forestry.com](http://www.urban-forestry.com)

**Bureau of Forestry**  
**Department of Conservation and Recreation**  
251 Causeway Street, Suite 600  
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